## Alternatives Analysis Outline Honolulu High-Capacity Transit Corridor Project

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## **Context of the Alternatives Analysis**

This section will address the planning and project development process, discuss the integration of the Alternatives Analysis (AA) with the Oahu Regional Transportation Plan, and provide a summary of the history of studies in the corridor.

## **Purpose of the Alternatives Analysis**

The focus of this section will be on decisions to be reached at the conclusion of the AA and the public hearings. It will explain how the local decision on an LPA will be reached, and by whom; and will also briefly note the FTA decision process in order to commence preliminary engineering.

## **Organization of the Alternatives Analysis**

The organization of the AA document will be summarized.

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## Acronyms Used in this Document

AA Alternatives Analysis

DTS Department of Transportation Services

EJ Environmental Justice

FTA Federal Transit Administration

OMPO Oahu Metropolitan Planning Organization

ORTP Oahu Regional Transportation Plan

TSM Transportation System Management

UH University of Hawaii

The Executive Summary will provide a short summary of all topics covered in detail in the Alternatives Analysis (AA). The Summary will be less than 15 pages.

## **Purpose of and Need for Transportation Improvements**

This section provides a summary of Chapter 1. It will include a description of the study area, with maps showing the study corridor relative to the Island of Oahu (Figure 1). The performance of the system will be discussed relative to established goals and objectives, needs will be identified, and transit market opportunities will be identified.

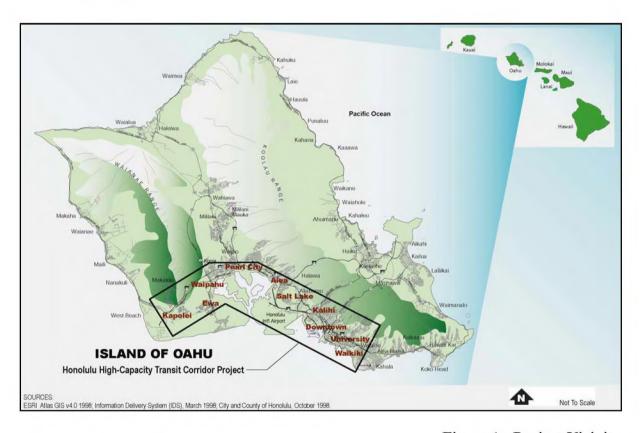


Figure 1: Project Vicinity

## **Alternatives Considered**

This section will summarize the alternatives considered in the AA, and include maps depicting each alternative considered in detail.

## **Transportation Impacts and Benefits**

This section summarizes Chapter 3, and describes how each alternative would affect the performance of the transportation system.

## **Environmental Impacts and Benefits**

This section will provide a short summary of the environmental benefits and impacts of the project. It also will include a table summarizing the impacts and benefits for each element of the environment.

#### **Evaluation of Alternatives**

This section will summarize Chapter 6 which compares the performance of each alternative across a variety of evaluation measures.

## **Areas of Controversy**

This section will describe any areas of concern raised by the public or other agencies. It will cover any unresolved issues with other agencies.

#### Issues to be Resolved

Decisions yet to be made will be described, including the choice between alternatives. This section will discuss the selection of a locally preferred alternative, selection and implementation of a financial plan, final mitigation commitments, and other local issues outstanding.

## **Description of the Corridor**

This section will provide a description of the study area.

## Population and Employment in the Corridor

#### **Travel Demand**

Estimates of total travel demand – current and future – will be developed and discussed, including an assessment of travel demand patterns (Origins and Destinations) and current and future travel markets.

#### **Potential Transit Markets**

Based on the travel markets described in the travel demand section above, this section will highlight those significant movements that are particularly amenable to being served by transit. This will include emphasis on areas with high density, mixed use attractors, relatively dense residential areas, and travel demands between them that are substantial.

## Transportation Facilities and Services in the Corridor

#### Transportation System in the Corridor

Facilities located in or services operating in the corridor will be described. This will include both highway and transit systems, parking facilities and/or availability, freight facilities, and pedestrian and bicycle facilities.

#### Performance of the Transportation System

Overlaying travel demand on the existing plus committed facilities and services, the existing and future baseline operating characteristics and performance of the transportation system serving the corridor will be discussed. Both highway and transit performance will be evaluated.

### **Need for Transportation Improvements**

Given the existing and predicted performance of the current transportation system in the corridor, the needs for transportation improvements will be summarized here. These will include needs related to improved mobility, travel time reliability, accessibility to key corridor activity centers, and improved transportation equity.

## **Purpose of the Proposed Action**

The purpose of the Honolulu High-Capacity Transit Corridor Project will be summarized here. The purpose will address the corridor needs as outlined above.

## **Goals and Objectives**

Project goals and objectives will be summarized in this section. These goals will have been based on the stated needs of the corridor. Objectives will be developed for each specified goal. Evaluation criteria which will be used to assess the effectiveness of corridor transit alternatives in subsequent chapters will be directly based on these goals and objectives.

## **Screening and Selection Process**

The methods by which the alternatives were evaluated will be summarized. This will include project requirements that were established and a summary of public and agency involvement in the screening process.

#### **Alternatives Considered**

This section will summarize each alternative considered in the screening and scoping process.

## **Alternatives Considered but Rejected**

This section will summarize all of the alternatives formally included in the alternatives screening, but not carried through into the AA. It will provide a short summary of each alternative and an explanation of why it failed screening. This will include environmental factors as well as a technical evaluation of the alternative versus stated project requirements.

## **Alternatives Evaluated in this Alternatives Analysis**

This section will describe in detail the physical features and operating characteristics of each of the alternatives evaluated in the AA, including feeder systems. The section will explain that the final selected alternative may include aspects of various alternatives evaluated. It will present the No Build Alternative, the Transportation System Management (TSM) Alternative, the Managed Lane Alternative, and the Fixed Guideway Alternative. Alternatives will be detailed as to alignments, access points or stations, and the need, type, size, and potential locations for auxiliary facilities such as park-and-ride lots. Figures showing the alternatives will be included.

The section will also cover system policies, including: fares, loading standards, etc.

#### **Schedule**

A simplified schedule of next phases and implementation phasing options will be provided for each alternative assessed in the AA.

## Chapter 3 Transportation Benefits and Impacts

This chapter will discuss the existing and future transportation system demand for each alternative for the planning horizon year 2030; the service characteristics and performance of each alternative; and transportation impacts of each. The chapter also will provide a sensitivity discussion on fuel prices and availability, transit fare structure, and other such factors.

## **Transportation Demand and Travel Patterns**

This section will compare projected transportation demand for each alternative to existing travel patterns. It will consider the number and types of trips and the mode of travel.

#### **Transit**

This section will address the projected transit service and ridership for each of the alternatives. Performance indicators will be identified and discussed.

#### Alternative 1: No Build Alternative

#### **Transit Service**

This section will summarize transit service under the No Build Alternative, and document how it performs with respect to the project goals and objectives. This will include, but not be limited to, documenting expected frequencies, speeds, and travel times, reliability, and safety.

#### **Transit Ridership**

Forecasts of year 2030 transit ridership, including boardings, volumes, peak period movements, transfers, and flows by station, for the No Build Alternative will be presented here.

#### Revenues

A discussion of revenues and farebox recovery for each service type will be presented.

#### **User Benefits**

An evaluation of user benefits for the alternative as defined by FTA will be provided.

#### Alternative 2: Transportation System Management (TSM) Alternative

#### **Transit Service**

Same as No Build here and in each section below

**Transit Ridership** 

Revenues

**User Benefits** 

#### Alternative 3: Managed Lane Alternative

**Transit Service** 

**Transit Ridership** 

Revenues

**User Benefits** 

#### Alternative 4: Fixed Guideway Alternative

**Transit Service** 

**Transit Ridership** 

Revenues

**User Benefits** 

## **Roadway Traffic**

This section will discuss projected roadway network operations under each of the alternatives.

#### Roadway System

This sub-section will describe the roadway system for each of the analyzed alternatives and sub-alternatives. It will include any changes necessary to interface with the transit system, such as direct-access ramps to park-and-ride lots and stations.

#### Traffic Operations

This sub-section will describe the existing and future roadway volumes, levels of service and travel times for each of the analyzed alternatives and sub-alternatives. This will include an overview discussion of the impact of each alternative on general corridor traffic operations, as well as more site specific impacts on traffic due to

alignment and/or station placement. The extent to which each alternative takes vehicles off of corridor roadways and/or adds to traffic congestion (e.g., by removing highway capacity, or by adding to highway demand – near stations, for example) will also be discussed.

## **Freight Movement**

The current and future projected ability to move commercial goods and services will be discussed. This section may be incorporated into the roadway system discussion, if access and deliveries are not important issues.

## **Parking**

This section will discuss projected parking demand, both at proposed park-and-ride facilities and in the urban core. Also discussed here will be impacts to on-street and/or off-street parking supply that any of the alternatives or sub-alternatives might have.

## **Non-Motorized Transportation**

This section will discuss anticipated impacts that each of the alternatives may have on pedestrian and bicycle facilities and use.

## **Transportation Impacts During Construction**

Closures, disruptions, detours, maintenance of traffic, and temporary shuttle or other services to mitigate temporary lane closures will be discussed for each alternative.

## Affected Environment and Environmental Consequences

## **Land Use and Economic Activity**

This section will address impacts to land use, economic development, station-area transit oriented development opportunities, and consistency with land use plans and policies. It will address: regional land use trends, land use plans and zoning, corridor land uses, population and employment, and tax base effects.

#### Background, Studies, and Coordination

The background, studies, and coordination section for each element of the environment provides the reader and decision makers with information needed to understand the technical discussion of the element. It also discusses the methods and parameters used to complete the analysis, and coordination with other agencies and studies that pertain to the element of the environment. This section will identify applicable laws, regulations, Executive Orders, etc. that are relevant to the topic.

#### Affected Environment

For each element of the environment, this section will provide an overview of the existing conditions in the project area. It will begin with a general description of the study area. It will then continue into a description of the existing conditions in the study area specific to the element. Existing land uses, land use plans and policies, and market demands will be discussed.

#### **Impacts**

Impacts common to all alternatives will be discussed first, followed by discussion of impacts specific to each alternative. To the extent possible, relative impacts will be compared between alternatives.

#### Alternative 1: No Build Alternative

Long-term Impacts

**Construction Impacts** 

Alternative 2: Transportation System Management (TSM) Alternative

Long-term Impacts

#### Alternative 3: Managed Lane Alternative

Long-term Impacts

**Construction Impacts** 

**Alternative 4: Fixed Guideway Alternative** 

Long-term Impacts

**Construction Impacts** 

#### **Indirect Impacts**

This sub-section will address any secondary impacts of the various alternatives. Secondary (or indirect) impacts are defined as effects caused by the action, later in time or further removed in distance, but still reasonably foreseeable.

#### Mitigation

The mitigation section will describe measures that are being considered to minimize and/or compensate for adverse impacts.

Mitigation of Long-term Impacts

**Mitigation of Construction Impacts** 

## **Neighborhoods and Communities**

This section will address impacts to communities, services, local businesses, community cohesion, and utility and service providers to each community. The section on displacements and relocation will identify areas where land may need to be acquired by the project. It also would briefly discuss the relocation process. The discussion of parklands will include the relevance of Section 4(f) of the USDOT Act of 1966 to recreational resources. The pertinence to historic resources will be discussed in the Cultural Resources section of the report.

Background, Studies, and Coordination

Affected Environment

**Impacts** 

Alternative 1: No Build Alternative

Community Cohesion

**Long-term Impacts** 

**Construction Impacts** 

Displacements and Relocations

**Long-term Impacts** 

**Construction Impacts** 

Services and Public Safety

**Long-term Impacts** 

**Construction Impacts** 

Utilities

**Long-term Impacts** 

**Construction Impacts** 

Park Lands

**Long-term Impacts** 

**Construction Impacts** 

Alternative 2: TSM Alternative

Community Cohesion

**Long-term Impacts** 

**Construction Impacts** 

Displacements and Relocations

**Long-term Impacts** 

**Construction Impacts** 

Services and Public Safety

**Long-term Impacts** 

#### Utilities

**Long-term Impacts** 

**Construction Impacts** 

Park Lands

**Long-term Impacts** 

**Construction Impacts** 

#### Alternative 3: Managed Lane Alternative

Community Cohesion

**Long-term Impacts** 

**Construction Impacts** 

Displacements and Relocations

**Long-term Impacts** 

**Construction Impacts** 

Services and Public Safety

**Long-term Impacts** 

**Construction Impacts** 

Utilities

**Long-term Impacts** 

**Construction Impacts** 

Park Lands

**Long-term Impacts** 

**Construction Impacts** 

#### Alternative 4: Fixed Guideway Alternative

**Community Cohesion** 

**Long-term Impacts** 

#### Displacements and Relocations

**Long-term Impacts** 

**Construction Impacts** 

Services and Public Safety

Long-term Impacts

**Construction Impacts** 

Utilities

**Long-term Impacts** 

**Construction Impacts** 

Park Lands

**Long-term Impacts** 

**Construction Impacts** 

**Indirect Impacts** 

#### Mitigation

Mitigation of Long-term Impacts

**Mitigation of Construction Impacts** 

#### **Environmental Justice**

Executive Order 12898 requires federal agencies to identify and not disproportionately affect minority and low-income populations. This section will identify environmental justice populations, discuss outreach made to those populations, and analyze the effects on the populations. Effects could include takings of land or jobs, community impacts, distribution of transportation benefits, construction impacts on businesses, or disproportionate noise impacts.

Alternative 1: No Build Alternative

Alternative 2: TSM Alternative

**Alternative 3: Managed Lane Alternative** 

Alternative 4: Fixed Guideway Alternative

#### **Farmlands**

The farmlands section will discuss impacts to prime and unique farmlands as identified in "Agricultural Lands of Importance to the State of Hawaii". Should the findings of the analysis conclude that substantial impacts would not occur to prime and unique farmlands, this section may be combined with Land Use and Economic Activity or Geology and Soils.

Background, Studies, and Coordination

Affected Environment

**Impacts** 

Alternative 1: No Build Alternative

Long-term Impacts

**Construction Impacts** 

Alternative 2: TSM Alternative

Long-term Impacts

**Construction Impacts** 

Alternative 3: Managed Lane Alternative

Long-term Impacts

**Construction Impacts** 

**Alternative 4: Fixed Guideway Alternative** 

Long-term Impacts

**Construction Impacts** 

**Indirect Impacts** 

Mitigation

Mitigation of Long-term Impacts

#### Visual and Aesthetic Resources

The section on visual and aesthetic resources will concentrate on the viewshed impacts, shading, and any impacts to light and glare that the project would create. Valuable viewsheds will be identified. Blocked views and visual compatibility will be discussed. Visual simulations will be provided. Any historic structures that gain their significance from their setting, where the change in view would compromise the setting, would be evaluated. View from the guideway will also be assessed. Landscaping and "art in transit" will be discussed in conceptual terms.

Background, Studies, and Coordination

Affected Environment

Impacts

Alternative 1: No Build Alternative

Long-term Impacts

**Construction Impacts** 

Alternative 2: TSM Alternative

Long-term Impacts

**Construction Impacts** 

**Alternative 3: Managed Lane Alternative** 

Long-term Impacts

**Construction Impacts** 

**Alternative 4: Fixed Guideway Alternative** 

Long-term Impacts

**Construction Impacts** 

**Indirect Impacts** 

Mitigation

Mitigation of Long-term Impacts

## **Air Quality**

The section on air quality will discuss current air quality conditions on Oahu and the effects of the alternatives, including the effect of constructing and operating a high-capacity transit system, on the air quality of the island.

Background, Studies, and Coordination

Affected Environment

**Impacts** 

Alternative 1: No Build Alternative

Long-term Impacts

**Construction Impacts** 

Alternative 2: TSM Alternative

Long-term Impacts

**Construction Impacts** 

Alternative 3: Managed Lane Alternative

Long-term Impacts

**Construction Impacts** 

**Alternative 4: Fixed Guideway Alternative** 

Long-term Impacts

**Construction Impacts** 

**Indirect Impacts** 

Mitigation

Mitigation of Long-term Impacts

#### **Noise and Vibration**

Potential noise and vibration impacts to sensitive residents and other land uses along the corridor will be evaluated for each alternative. Noise and vibration levels will be compared to FTA criteria.

Background, Studies, and Coordination

Affected Environment

Noise Impacts

Alternative 1: No Build Alternative

Long-term Impacts

**Construction Impacts** 

Alternative 2: TSM Alternative

Long-term Impacts

**Construction Impacts** 

**Alternative 3: Managed Lane Alternative** 

Long-term Impacts

**Construction Impacts** 

**Alternative 4: Fixed Guideway Alternative** 

Long-term Impacts

**Construction Impacts** 

Noise Mitigation

**Mitigation of Long-term Impacts** 

**Mitigation of Construction Impacts** 

Vibration Impacts

Alternative 1: No Build Alternative

Long-term Impacts

**Construction Impacts** 

Alternative 2: TSM Alternative

Long-term Impacts

Construction Impacts

Alternative 3: Managed Lane Alternative

Long-term Impacts

**Construction Impacts** 

Alternative 4: Fixed Guideway Alternative

Long-term Impacts

**Construction Impacts** 

**Indirect Impacts** 

Vibration Mitigation

**Mitigation of Long-term Impacts** 

**Mitigation of Construction Impacts** 

## **Geology and Soils**

Geologic conditions in the study corridor will be described. Unique conditions that would affect project alternatives will be evaluated.

Background, Studies, and Coordination

Affected Environment

**Impacts** 

Alternative 1: No Build Alternative

Long-term Impacts

Alternative 2: TSM Alternative

Long-term Impacts

Construction Impacts

**Alternative 3: Managed Lane Alternative** 

Long-term Impacts

**Construction Impacts** 

Alternative 4: Fixed Guideway Alternative

Long-term Impacts

**Construction Impacts** 

**Indirect Impacts** 

Mitigation

**Mitigation of Long-term Impacts** 

**Mitigation of Construction Impacts** 

#### **Natural Hazards**

Natural hazard areas, including floodplains and areas prone to tsunami will be described. Unique conditions that would affect project alternatives will be evaluated.

Background, Studies, and Coordination

Affected Environment

**Impacts** 

Alternative 1: No Build Alternative

Long-term Impacts

Alternative 2: TSM Alternative

Long-term Impacts

**Construction Impacts** 

Alternative 3: Managed Lane Alternative

Long-term Impacts

**Construction Impacts** 

Alternative 4: Fixed Guideway Alternative

Long-term Impacts

**Construction Impacts** 

**Indirect Impacts** 

#### Mitigation

**Mitigation of Long-term Impacts** 

**Mitigation of Construction Impacts** 

#### **Water Resources**

This section will discuss potential impacts to the complete range of water resources, including surface and groundwater, and floodplains. Any permits that would be required from resource agencies will be identified. Design and operating requirements to protect water resources will be identified.

Background, Studies, and Coordination

Affected Environment

**Impacts** 

**Alternative 1: No Build Alternative** 

Water Quality

Long-term Impacts

#### Waterways

**Long-term Impacts** 

**Construction Impacts** 

Shorelines

**Long-term Impacts** 

**Construction Impacts** 

Groundwater

**Long-term Impacts** 

**Construction Impacts** 

**Alternative 2: TSM Alternative** 

Water Quality

**Long-term Impacts** 

**Construction Impacts** 

Waterways

**Long-term Impacts** 

**Construction Impacts** 

Shorelines

**Long-term Impacts** 

**Construction Impacts** 

**Alternative 3: Managed Lane Alternative** 

Water Quality

**Long-term Impacts** 

**Construction Impacts** 

Waterways

**Long-term Impacts** 

#### Shorelines

**Long-term Impacts** 

**Construction Impacts** 

Alternative 4: Fixed Guideway Alternative

Water Quality

Long-term Impacts

**Construction Impacts** 

Waterways

**Long-term Impacts** 

Construction Impacts

Shorelines

**Long-term Impacts** 

**Construction Impacts** 

**Indirect Impacts** 

#### Mitigation

Mitigation of Long-term Impacts

**Mitigation of Construction Impacts** 

## **Biological Resources and Ecosystems**

Impacts to natural resources, including vegetation, wildlife, threatened and endangered species, and wetlands will be discussed in this section.

Background, Studies, and Coordination

Affected Environment

**Impacts** 

Alternative 1: No Build Alternative

Wildlife Biology

**Long-term Impacts** 

**Construction Impacts** 

Vegetation Biology

**Long-term Impacts** 

**Construction Impacts** 

Threatened and Endangered Species

**Long-term Impacts** 

**Construction Impacts** 

Street Trees

**Long-term Impacts** 

**Construction Impacts** 

Wetlands

**Long-term Impacts** 

**Construction Impacts** 

**Alternative 2: TSM Alternative** 

Wildlife Biology

**Long-term Impacts** 

**Construction Impacts** 

Vegetation Biology

**Long-term Impacts** 

**Construction Impacts** 

Threatened and Endangered Species

**Long-term Impacts** 

#### Street Trees

**Long-term Impacts** 

**Construction Impacts** 

Wetlands

**Long-term Impacts** 

**Construction Impacts** 

#### Alternative 3: Managed Lane Alternative

Wildlife Biology

**Long-term Impacts** 

**Construction Impacts** 

Vegetation Biology

**Long-term Impacts** 

**Construction Impacts** 

Threatened and Endangered Species

**Long-term Impacts** 

**Construction Impacts** 

Street Trees

**Long-term Impacts** 

**Construction Impacts** 

Wetlands

**Long-term Impacts** 

**Construction Impacts** 

Alternative 4: Fixed Guideway Alternative

Wildlife Biology

**Long-term Impacts** 

Vegetation Biology

**Long-term Impacts** 

**Construction Impacts** 

Threatened and Endangered Species

**Long-term Impacts** 

**Construction Impacts** 

Street Trees

**Long-term Impacts** 

**Construction Impacts** 

Wetlands

**Long-term Impacts** 

**Construction Impacts** 

**Indirect Impacts** 

Mitigation

**Mitigation of Long-term Impacts** 

**Mitigation of Construction Impacts** 

## **Energy**

Energy use to construct and operate each of the alternatives will be evaluated. Energy savings from reduced auto travel also will be included.

Background, Studies, and Coordination

Affected Environment

Impacts

Alternative 1: No Build Alternative

Long-term Impacts

Alternative 2: TSM Alternative

Long-term Impacts

**Construction Impacts** 

Alternative 3: Managed Lane Alternative

Long-term Impacts

Construction Impacts

Alternative 4: Fixed Guideway Alternative

**Indirect Impacts** 

Mitigation

**Mitigation of Long-term Impacts** 

**Mitigation of Construction Impacts** 

#### **Hazardous Materials**

This section would discuss any known contaminated sites that would be disturbed by the project and any potential releases of hazardous materials into the environment that would occur as a result of the project.

Background, Studies, and Coordination

Affected Environment

**Impacts** 

Alternative 1: No Build Alternative

Long-term Impacts

Construction Impacts

Alternative 2: TSM Alternative

Long-term Impacts

#### **Alternative 3: Managed Lane Alternative**

Long-term Impacts

**Construction Impacts** 

#### **Alternative 4: Fixed Guideway Alternative**

Long-term Impacts

**Construction Impacts** 

**Indirect Impacts** 

#### Mitigation

**Mitigation of Long-term Impacts** 

**Mitigation of Construction Impacts** 

## Cultural, Historic, and Archaeological Resources

Both state and federal requirements pertaining to cultural resources (including historic and archaeological resources) will be addressed. This section also will discuss the relevance of Section 4(f) of the USDOT Act of 1966 to historic resources.

#### Background, Studies, and Coordination

Affected Environment

#### Cultural Resource Impacts

This sub-section will discuss any cultural effects according to OEQC guidance.

Alternative 1: No Build Alternative

Long-term Impacts

**Construction Impacts** 

Alternative 2: TSM Alternative

Long-term Impacts

#### **Alternative 3: Managed Lane Alternative**

Long-term Impacts

Construction Impacts

Alternative 4: Fixed Guideway Alternative

Long-term Impacts

**Construction Impacts** 

**Indirect Impacts** 

#### Mitigation of Cultural Resource Impacts

**Mitigation of Long-term Impacts** 

**Mitigation of Construction Impacts** 

#### Historic Resource Impacts

This sub-section will discuss any effects to properties on or eligible for the National or Hawaii Register of Historic Places.

Alternative 1: No Build Alternative

Long-term Impacts

Construction Impacts

**Alternative 2: TSM Alternative** 

Long-term Impacts

**Construction Impacts** 

Alternative 3: Managed Lane Alternative

Long-term Impacts

**Construction Impacts** 

Alternative 4: Fixed Guideway Alternative

Long-term Impacts

#### **Indirect Impacts**

#### Mitigation of Historic Resource Impacts

**Mitigation of Long-term Impacts** 

**Mitigation of Construction Impacts** 

#### Archaeological Resource Impacts

This sub-section will discuss any effects to archaeological resources.

Alternative 1: No Build Alternative

Long-term Impacts

Construction Impacts

Alternative 2: TSM Alternative

Long-term Impacts

**Construction Impacts** 

**Alternative 3: Managed Lane Alternative** 

Long-term Impacts

**Construction Impacts** 

**Alternative 4: Fixed Guideway Alternative** 

Long-term Impacts

Construction Impacts

**Indirect Impacts** 

Mitigation of Archaeological Resource Impacts

**Mitigation of Long-term Impacts** 

This section discusses the costs and revenues for each alternative and evaluates financial feasibility of the alternatives.

## **Capital Costs**

**Estimation Methods** 

Cost Projections

Alternative 1: No Build Alternative

Alternative 2: TSM Alternative

Alternative 3: Managed Lane Alternative

**Alternative 4: Fixed Guideway Alternative** 

Comparison Between Alternatives

### **Operating and Maintenance Costs**

Estimation Methods

**Cost Projections** 

**Alternative 1: No Build Alternative** 

**Alternative 2: TSM Alternative** 

Alternative 3: Managed Lane Alternative

Alternative 4: Fixed Guideway Alternative

Comparison Between Alternatives

## **Funding**

Existing Revenues

Planned Capital Funding

Planned Operating and Maintenance Funding

## **Cash Flow Analysis**

# Risks and Uncertainties Conclusions

## **Evaluation Approach**

This section provides an overview of the approach taken to evaluate and compare the alternatives with each other. The evaluation will include comparisons of how well each alternative meets the identified goals and objectives.

## **Effectiveness at Meeting Goals and Objectives**

Evaluation measures based on the goals and objectives will be identified in this section. Assessing each alternative against these measures will show how well each meets the identified goals and addresses the stated transportation problems/needs.

#### Improve Corridor Mobility

The merits of each alternative in improving person mobility will be discussed in terms of improved travel times, trip reliability, and accessibility to desired corridor destinations.

#### Encourage Patterns of Smart Growth and Economic Development

The ability of each alternative to support land use and transportation policies related to reducing the demand for and amount of automobile travel in the corridor will be discussed. The level to which each alternative supports both regional and site specific economic development will also be discussed.

#### Find Cost-Effective Solutions

The relative cost-effectiveness of each alternative will be discussed in terms of benefits provided in comparison to costs.

#### **Provide Equitable Solutions**

A comparison of how well each alternative distributes impacts and benefits fairly across different population groups will be discussed, with particular emphasis on ability to serve transit dependent communities.

#### **Develop Feasible Solutions**

Both the financial and engineering feasibility of each alternative will be documented to the degree to which it differentiates between alternatives.

#### Minimize Community and Environmental Impacts

Differences among the alternatives related to a variety of community and environmental impacts and benefits will be summarized.

#### Achieve Consistency with Other Planning Efforts

The relative degree to which each alternative is consistent with other relevant planning efforts will be discussed.

## Comparison of Benefits and Consequences among the Alternatives

This section provides a summary of the costs, impacts and benefits of each alternative and a discussion of the trade-offs. Differences in effectiveness are described. Comments from scoping and public involvement process will also be discussed.

The comparison summary will be presented in the form of a tabular matrix showing how each alternative rates relative to the other alternatives across the measures considered.

## **Important Trade-offs**

This section will present the results of a trade-offs analysis which will focus on only those measures that show discernable and significant differences between alternatives. "Trade-offs" refers to the fact that any alternative may have both positive and negative aspects and that the selection of an LPA requires identifying and appropriately balancing these "trade-offs".

## **Chapter 7** Coordination and Consultation

All coordination with other agencies and public involvement activities will be summarized in this chapter.

**Public Involvement** 

**Agency Coordination** 

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